

## PATENT ABSTRACTS OF JAPAN

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## (54) IMMERSION TYPE MEMBRANE SEPARATION DEVICE

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To reduce the concentration of a concentrated SS in a membrane separation tank, improve the concentration ratio and make the stabilized operation continuable for a long time by providing a water tank having solid-liquid separation function in the foregoing step of an immersion type membrane separation tank.

**SOLUTION:** A drain 1 is first introduced into a pH adjustment tank 3 and a flocculant and a pH adjustor are injected from a chemical liquid injection pipe 2 and agitated in an agitator 4 to generate the flocculation reaction. Then the drain is introduced into an intermediate tank 5 and then made to flow naturally and transferred into a membrane separation tank 12, wherein the membrane separation treatment is carried out by an immersion type membrane 13, and a treated water 15 is transferred outside a system by a treated water pump 16. The membrane surface cleaning and the agitation of inter-tank drain are carried out at all times in the membrane separation tank 12 by a clean air 14 from a blower 18. An SS concentrated in the membrane separation tank 12 is preferably transferred to the intermediate tank 5 by a sludge transfer pump 17. A concentrated sludge 8 concentrated in the intermediate tank 5 as a removed sludge 9 is transferred outside a system by a sludge removal pump 10.

